

Estimated Abundance of Adult Fall Chum Salmon in the Middle Yukon River, Alaska, 2004

Mark and recapture data were collected to estimate the abundance of fall chum salmon *Onchorhynchus keta* during 2004 in the middle Yukon River, above the Tanana River confluence. Weekly stratum estimates of migrating fall chum salmon were generated for a period of approximately eight weeks between 27 July and 21 September 2004. Fish were captured with a single fish wheel at the marking and recovery sites. Color-coded spaghetti tags were applied to 4,166 fish at the marking site. Throughout the season, 25,265 fish were examined for marks at the recovery site using video recordings. The tag status of 273 (1%) fish could not be determined and 197 (<1%) fish were tagged. Using a Darroch estimator, the estimated abundance of fall chum salmon migrating through the mainstem Yukon River in 2004 was 618,579 (SE 60,714) for the sampling period. Our estimate was 85% greater than the 2004 run reconstruction for fall chum salmon in the upper Yukon River. The run reconstruction included the combined total of tributary escapements (Chandalar, Sheenjek, and Fishing Branch rivers), harvest estimates above the study area, and Canadian border passage estimate of fall chum salmon. The difference between the Rampart-Rapids passage estimate and the run reconstruction may be partially attributed to unexpected biological and hydrologic factors during the 2004 field season.

Citation: C. K. Apodaca and D. W. Daum. 2004. Estimated Abundance of Adult Fall Chum Salmon in the Middle Yukon River, Alaska, 2004. U.S. Fish and Wildlife Service, Alaska Fisheries Technical Report Number 85 (FIS 04-217), June 2005. Fairbanks Fish and Wildlife Field Office, Fairbanks, Alaska.